

# REGIONALIZATION OF CARE IN MISSOURI'S EMERGENCY MEDICAL CARE SYSTEM: TRAUMA, STROKE, AND STEMI

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## Overview

- Missouri's EMS structure
- Reasons for TCD: Epidemiology of Missouri
- TCD History
- TCD Core Components
- Cultural Changes and Pitfalls
- Challenges

# MO.'s EMS Regional Structure

- 6 EMS Regional Councils
  - ▣ Subcommittees of State Advisory Council on EMS
  - ▣ Regional Chair
  - ▣ Advisory role
- Regional EMS Medical Director
  - ▣ Elected by local regional EMS medical directors
  - ▣ Advisory role

## The Circle



## STEMI

- Heart disease, including STEMI, is the leading cause death in this state.
- In 2004, Missouri's heart disease death rate was 13.5 percent higher than the national rate.
- Missouri was in the bottom ten (45 out of 52) in coronary heart disease death rates.
- The prevalence of heart disease was higher than the national average
  - Missouri ranked 9th among the 50 states in heart disease prevalence in 2005.

## STROKE

- Stroke is the third leading cause of death in the state.
- In 2004, Missouri's stroke death rate was 11 percent higher than the national rate.
- Missouri ranked low (40 out of 52) in the comparison of stroke death rate between states.
- Missouri was ranked 7<sup>th</sup> in stroke prevalence.
- Only a small percent of ischemic stroke patients get definitive care within the 3 hour window recommended.

# TCD Key Guiding Principles



- ▣ Patient centered care
- ▣ Evidence-based system design
- ▣ Population-based approach
- ▣ Evaluation mechanism

## The Trauma System as a Model



### Trauma System:

- Improves Patient Outcomes and Saves Lives
  - 50% reduction in preventable death rate after implementation
  - Decrease in cases of sub-optimal care from 32% to 3%
- ▣ Improves Hospital Outcomes
  - Better outcomes compared to voluntary system
  - Cost Savings through more efficient use of resources
- ▣ Improves Regional Outcomes
  - Regional system accommodates regional and local variations



## Key Component: Leadership

- Strong Departmental support for emergency medical care, including EMS Bureau and Heart Disease and Stroke Program
- Strong support from the Missouri Foundation for Health and the CDC
- Dedication and commitment of ad hoc Trauma, Stroke, and STEMI Task Forces, now roughly 700 people from across the state

REGIONAL ASPECTS OF  
SYSTEM DEVELOPMENT:  
THE COMMON THREAD

# The Common Thread

## □ System Requirements

- ▣ Include all the stakeholders for system design and structure.
- ▣ Accommodate regional and local variables
- ▣ Viable and supports patient care
- ▣ Means to sustain itself
- ▣ Improves care over time-able to refine itself
  - Consistent data collection and use to support QA/QI/PI processes

# The Common Thread

- Three diagnoses; acute trauma, stroke, STEMI
  - ▣ Right patient, right care, right place, right time
  - ▣ Importance of early recognition and appropriate transport and triage
  - ▣ “Circle concept” of system of care
  - ▣ We have clear evidence that timely and appropriate treatment of these three diagnoses can improve patient outcomes.



# The Common Thread

- ▣ Need for well-designed inter-facility transfer mechanisms
- ▣ In-hospital programs and out-of-hospital advances that can contribute to the overall effort
- ▣ Patient outcome improvements require a total system perspective

TCD SYSTEM CORE  
COMPONENTS

## **Missouri Regulations**

### **Both Stroke & STEMI**

- ❑ Data submission for statewide registry
  - ▣ State level PI
  - ▣ Local/Regional level PI
- ❑ Performance improvement and patient safety requirements
- ❑ Public education to promote prevention and signs and symptoms awareness
- ❑ Bi-directional feedback between EMS and Hospitals

## **Missouri Regulations**

### **Trauma**

- Same core components as Stroke/STEMI regulation
- Level IV Trauma Center regulations under development
- Update old trauma regulations
- Update pediatric trauma regulations
- Transport Protocol



## Other Components

- Public Education
- Professional Education
- Quality Assurance/PI
  - ▣ Peer review protection
  - ▣ State Registry development
  - ▣ PSO

CULTURAL CHANGE AND  
PITFALLS

## Pitfalls

- ❑ Need collaboration and respect between EMS and Hospital providers
- ❑ Need to understand rural-urban difference, different requirements and needs to meet common patient goals, and sources of potential tension
- ❑ Need to recognize role of rural and CAH in system; friction between small and larger hospitals
- ❑ Fear of EMTALA violations
- ❑ Payer question

## Pitfalls

- ❑ Discussion of local autonomy and control
  - ❑ Transport protocols
  - ❑ COT and NHTSA reviews
- ❑ Process cast as centralization and desire for control over EMS
- ❑ Some systems might not wish for aspects of operation to be visible
- ❑ Hospital competition
- ❑ When the rubber hits the road

## The End Goal:

360/365 Emergency Medical Care System

**Time Critical Diagnosis-**  
**Right care. Right Place. Right Time**

Trauma

Stroke

STEMI

*Better outcomes for  
Missourians*